

**REMARKS**

Reconsideration and allowance of this application are respectfully requested.

**I. Summary of the Non-final Office Action**

Claims 1-15 are pending in this application.

Claims 1, 13 and 14 are objected to as minor editorial corrections are required.

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

Claims 1, 2, 12 and 13 are rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Smith et al. (USP 6,233,077; hereinafter “Smith”).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Maione et al. (USP 4,019,048; hereinafter “Maione”).

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Maione and further in view of Carriere (USP 5,504,778; hereinafter “Carriere”).

Claims 5-7 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Maione and further in view of Roberts (USP 6,067,180; hereinafter “Roberts”).

Claim 8 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Maione and further in view of Roberts and Townsend (USP 5,323,423; hereinafter “Townsend”).

Claim 9 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Feustel (USP 5,552,962; hereinafter “Feustel”).

Claim 10 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Feustel and further in view of Boulais et al. (US Pub. No. 2003/0002498; hereinafter "Boulais").

Claim 11 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Feustel and further in view of Boulais, Zwan et al. (USP 5,991,270) and Yeates (USP 5,278,404).

Claim 15 (now claim 16) is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Smith in view of Applicant Admitted Prior Art.

## **II. Amendments to Claims**

Applicant amends independent claim 1 and corresponding claims 9 and 12 to clarify the inventive feature of the present application. No new matter is added.

Applicant also amends claims 14-16 to correct the claim numbers.

Claims 1 and 15 are also amended to make editorial corrections as indicated in the office action.

Claim 3 is also amended based on Fig. 1 of the present application.

## **III. Analysis of Claim Rejection under 35 U.S.C. § 102(b)**

With respect to claim 1, one aspect of the claimed invention is that, based on the bit rate of the multiplex signal detected by the clock data recovery (CDR) circuit, it is determined whether the CDR circuit is bypassed or not in the claimed signal regenerator.

By contrast, Smith does not disclose that the detection of 16MB/s and 4MB/s is made at the retiming circuit 34. The reference simply states that the determination (selection) of bypassing the retiming circuit 34 is made based on the frequency of operation of the token ring

network in col. 6, lines 18-24 as cited by the Examiner. There is no specific teaching that the detection of a higher bit rate or a lower bit rate is made at the retiming circuit 34.

On the contrary, the reference recites in col. 7, lines 35-42 that the “[m]ultiplexer 60 is implemented using two MC10158 selector circuits also made by Motorola Inc.” The reference continues that “[d]epending on the level of the Select signal, either the 16 MB/s or the 4 MB/s differential signals are selected, depending upon the frequency of operation of the token ring network.” By this foregoing disclosure, the reference only teaches that whether to bypass the retiming circuit 34 or not is determined by the multiplexer 60 (allegedly corresponding to the claimed switch) using the MC10158 selector circuits provided in the multiplexer 60 instead of the retiming circuit 34.

Further, even though there is detection of two different bit rates at the retiming circuit 34, Smith does not teach if such detection is used to determine whether to bypass the retiming circuit 34 or not. In the reference, the bit rate detection occurring at the retiming circuit 34 is for the purpose of tuning the tank circuit at twice the frequency of the detected bit rate by which the jitter could be further reduced. For similar purposes, the baud extractor 310 of Maione, which the Examiner relies on to reject claim 2, detects the bit rate (frequency) of the input data pulse stream, which bit rate is used to determine the frequency difference between the input data pulse stream and the controlled oscillator.

Therefore, Applicant respectfully submits that the claimed signal regenerator and corresponding method (claim 12) would not have been anticipated by Smith at least because this reference does not disclose that the retiming circuit 34 detects the bit rate of a signal which is used to determine whether to bypass the retiming circuit 34 or not.

Applicant also submits that claims 2 and 13 should be allowable at least due to their dependencies.

**IV. Analysis of Claim Rejection under 35 U.S.C. § 103(a)**

Claims 2 and 3 should be allowable at least due to their dependencies.

With respect to claim 3, Applicant submits that Smith and Maione, taken alone or in combination, do not teach or suggest the claimed decision circuit is connected to the output of the switch of claim 1.

With respect to claim 4, the Examiner alleges that the test loop connectable from the output to the input of the regenerator is disclosed by Carriere (col. 11, lines 13-18 and lines 26-34) since this reference teaches the test loop feeding the signal from the output to the input.

Carriere provides a baseband modem (Fig. 2) which includes an equalizer circuit.

The cited parts disclose that the disclosure, the baseband modem is set to the loop test 3 mode (by applying “0” to the control signal BCL), the input terminal EB (or Eb) of the equalizer EGA is connected to the terminal EA, where a fraction of the filtered transmission signal SR is present. Here, if the terminal EA is an output of the equalizer EGA, the Examiner’s allegation might not be entirely unreasonable since in the test mode of an equalizer, the output is connected to the input.

However, the terminal EA is not an output of the equalizer EGA. An output terminal of the equalizer EGA to which the “eye” signal is output is the terminal OE which is not the terminal EA. For the terminal EA to correspond to the output terminal of the EGA, there should be an equalization output from the equalizer EGA; but at the terminal EA, only a fraction of the

filtered transmission signal SR is present, and this signal SR is a resistor output from the terminal SF which has no connection to the EGA.

Therefore, since the terminal EA connected to the input terminal EB of the equalizer EGA is not an output terminal of the equalizer EGA in the test mode, the claimed subject matter is not taught by the reference. Applicant respectfully submits that claim 4 should be allowable without regard to its dependency on claim 1.

Claim 13 (now claim 14) should be allowable at least due to its dependency on claim 4.

Claims 5-11 and 15 should be allowable at least due to their dependencies.

In the meantime, with respect to claims 9 and 15 (now claim 16), it should be noted that the present application is directed to a network element comprising an electrical signal generator relating to 2.7-10 Gbits/s rate. On the contrary, the primary reference (Smith) is directed to using an old conventional LAN technology. It is generally known that the bit rate concerned in the claimed network element (2.7-10 Gbits/s) is much higher than a LAN technology network of Smith by a factor or approximately 1,000 times. Thus, persons of ordinary skill in the art cannot reasonably expect that, when it is proposed to retune 16 MHz signal but bypass 4 MHz signals, the LAN technology of Smith could be applied successfully at the 2.7 - 10 Gbits/s range.

Therefore, Applicant respectfully submits that the claimed network element and electrical signal generator would not have been obvious over Smith in view of other references.

**V. Allowable Claim**

Applicant requests the Examiner to hold the rewriting of allowable claim 14 (now claim 15 as the claim number is changed) in abeyance until the arguments presented with respect to rejected claims have been reconsidered.

**VI. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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